4 August 2003

Barry S. Drucker Minerals Management Service Herndon, VA 20170

Re: MMS Contract No. 0102CT85139; Archaeological Damage Analysis

Dear Barry:

This letter is our bi-monthly progress report on the abovementioned project. Under Task 1 - Literature Search and Review, we have finished collecting submerged cultural resource survey reports that document survey methodologies, equipment and target analysis criteria. We have been quantifying and evaluating responses to our email survey. We are also following up on our survey respondents and non-respondents to increase the spectrum of our data.

The survey responses have all been entered into a spreadsheet for comparison and analysis. We have collected a number of ground-truthed shipwreck remote sensing signatures that represent the spectrum of vessel types that might likely be identified in an MMS survey.

Our most significant unresolved issue regards zones of avoidance. There are little concrete data on the characteristics that would contribute to their effectiveness. We have found that virtually all extant zones have been established without the benefit of any scientific data concerning the nature of the resource, the nature of the environment or criteria for defining the zone. Survey respondents confirm that most decisions concerning zones of avoidance have been made on the basis of individual perspective.

Under Task 2 - Analysis and Recommendations, we are starting to develop recommendations for the report. We have drafted sections of the report that analyzes the industry responses. We have made recommendations concerning dredge positioning and tracking equipment, buffer zones, dredge operation and monitoring programs. We are currently reviewing these recommendations and determining a policy recommendation for the case when the removal of material from the borrow area will perch a resource on a sand pedestal above the natural bottom. The Plume Modeling is approximately 75% complete. To date we have encountered no significant problems and have no que stions that require resolution with MMS.

Sincerely,

Jacqueline Michel, Ph.D.

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President

Cc: Jane Carlson, Contracting Officer Anna DeGurse, Contracting Officer Melanie Stright, Contract Inspector Jack Irion, Contract Inspector James Kendall, Chief, Branch of Environmental Studies

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